

358/1.13 **What Is Claimed Is:**

1 1. A method of generating an image using raster image processing, said image being
2 generated based on a specification specifying said image, said specification containing data
3 representing a plurality of objects, said method comprising:

4 implementing a plurality of approaches, with each approach being designed to generate
5 said image;

6 receiving said specification;

7 examining said specification to determine a number of resources required to generate
8 each of said plurality of approaches;

9 selecting one of said plurality of approaches which requires an optimal number of
10 resources;

11 generating said image from said specification using said selected one of said plurality of
12 approaches.

1 2. The method of claim 1, wherein said plurality of approaches differ at least in one of
2 rendering and screening, wherein said rendering and screening are contained in said raster image
3 processing.

1 3. The method of claim 2, wherein said plurality of approaches comprises two
2 approaches.

1 4. The method of claim 3, wherein said screening is performed using a back-end
2 screening in a first one of said plurality of approaches and using pipelined screening in a second
3 one of said plurality of approaches, wherein said rendering is implemented consistent with said
4 back-end screening in said first approach and with said pipelined screening in said second
5 approach.

1 5. The method of claim 4, wherein said examining comprises determining a minimum
2 duration of time consumed by either said back-end screening or said pipelined screening.

6. The method of claim 5, wherein a system implementing said method contains a random access memory (RAM) and a cache, wherein said cache enables faster access to data to a processing unit, said determining a minimum duration further comprises determining an additional time required by said back-end screening approach due to storing rendered data in said RAM.

7. The method of claim 5, wherein said determining a minimum duration further comprises determining an additional time required by said pipelined screening due to the overlap of objects contained in said specification for said image.

8. The method of claim 5, wherein a system implementing said method contains a random access memory (RAM) and a cache, wherein said cache enables faster access to data to a processing unit, wherein said determining a minimum duration further comprises determining an additional time required by said pipelined screening when said processing unit accesses a code in cache enabling implementation of said pipelined screening, and an instruction cache miss results in accessing said code in said cache.

9. The method of claim 5, wherein a system implementing said method contains a random access memory (RAM) and a cache, wherein said cache enables faster access to data to a processing unit, said determining a minimum duration further comprises determining an additional time required by said pipelined screening if a data structure for a desired tile size does not fit in said cache, wherein said data structure is used in said pipelined screening.

10. The method of claim 1, wherein said specification is provided in a page description language (PDL).

1 11. A system for generating an image using raster image processing, said image being
2 generated based on a specification specifying said image, said specification containing data
3 representing a plurality of objects, said system comprising:

4 means for implementing a plurality of approaches, with each approach being designed
5 to generate said image;

6 means for receiving said specification;

7 means for examining said specification to determine a number of resources required to
8 generate each of said plurality of approaches;

9 means for selecting one of said plurality of approaches which requires an optimal number
10 of resources;

11 means for generating said image from said specification using said selected one of said
12 plurality of approaches.

1 12. The system of claim 11, wherein said plurality of approaches differ at least in one of
2 rendering and screening, wherein said means for rendering and means for screening are
3 contained in said raster image processing.

1 13. The system of claim 12, wherein said plurality of approaches comprises two
2 approaches.

1 14. The system of claim 13, wherein said means for screening is implemented using a
2 back-end screening in a first one of said plurality of approaches and using pipelined screening
3 in a second one of said plurality of approaches, wherein said means for rendering is implemented
4 consistent with said back-end screening in said first approach and with said pipelined screening
5 in said second approach.

1 15. The system of claim 14, wherein said means for examining comprises means for
2 determining a minimum duration of time consumed by either said back-end screening or said
3 pipelined screening.

1 16. The invention of claim 11, wherein said system comprises a computer system.

1 17. A computer program product for use with a computer system, said computer program
2 product comprising a computer usable medium having computer readable program code means
3 embodied in said medium generating an image using raster image processing, said image being
4 generated based on a specification specifying said image, said specification containing data
5 representing a plurality of objects, said computer program product including:

6 computer readable program code means for implementing a plurality of approaches, with
7 each approach being designed to generate said image;

8 computer readable program code means for receiving said specification;

9 computer readable program code means for examining said specification to determine a
10 number of resources required to generate each of said plurality of approaches;

11 computer readable program code means for selecting one of said plurality of approaches
12 which requires an optimal number of resources;

13 computer readable program code means for generating said image from said specification
14 using said selected one of said plurality of approaches.

1 18. The computer program product of claim 17, wherein said plurality of approaches
2 differ at least in one of rendering and screening, wherein said computer readable program code
3 means for rendering and computer readable program code means for screening are contained in
4 said raster image processing.

1 19. The computer program product of claim 18, wherein said plurality of approaches
2 comprises two approaches.

1 20. The computer program product of claim 19, wherein said computer readable program
2 code means for screening is implemented using a back-end screening in a first one of said
3 plurality of approaches and using pipelined screening in a second one of said plurality of

4 approaches, wherein said computer readable program code means for rendering is implemented
5 consistent with said back-end screening in said first approach and with said pipelined screening
6 in said second approach.

1 21. The computer program product of claim 20, wherein said computer readable program
2 code means for examining comprises computer readable program code means for determining
3 a minimum duration of time consumed by either said back-end screening or said pipelined
4 screening.

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